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TO STUDY THE EFFECT OF FUNGI ON SEED GERMINATION OF BRINJAL BY USING TRICHODERMA SPECIES

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ABSTRACT

Present study was aimed to determine the fungi on germination of seed of Brinjal and their bio control by using Antagonistic activity of *Trichoderma* species . The efficiency of Bio-control means in controlling seed borne fungal diseases by using one *Trichoderma* species. Three different hybrid varities of Brinjal and one wild varities of Brinjal sown in pot expt. In Botany Garden . The seed were purchased in various company i.e Ankur, Panchganga, Arnav and Wild variety. The seed Germination in Ankur is 70% Panchganga 80% germination and Arnav 90% germination were seen as compare to wild variety .

INTRODUCTION:

Egg - plant (*Solonum melogenay*) is an important of the popular vegetable crop worldwide . It is affected by several diseases, which do not control the plants to grow and yield to the best of genetic potential. Various disease management methods have been implemented to combat and eradicate pathogenic fungi. These include cultural, regulatory, physical, chemical and biological methods. In that situation Bio- control offers a good choice to grows to control the disease avoid the pollution Biological control of plant disease is suggested as on alternative to chemical control (Cook, 1977) and is considered as a cost effective and an environmental ecofriendly techniques. Humas an organic rich soil of valley is flavored to flourish the bioagents easily can control the diseases. Infact domestic antagonistic are most virulent strains to the pathogens (Dohroo, 2001) because of their persistent capability under soil and local climate conditions. Some fungi , bacteria and actinomycetes have been identified and used as antagonistic microbes against these pathogens including members of genus pythium (Rakesh kumar etal 2010). The most commonly using biological control agents include three fungi . *Gliocladium virens* for the control of seedling diseases of ornamental and bedding plants , *Trichoderma harzianum* for the control of several plant pathogenic fungi and *T. polysporum* for the control of wood decay and germination of seeds (Khare and singh ,2010)

MATERIAL AND METHOD :

The practical work is done in the laboratory as well as in pot culture in botanic garden three hybrid varities of seed and one wild varities taken for the study of seed borne fungi on seed germination of Brinjal, Ankur, Panchganga and Arnav and wild variety of each of 100 seeds were sown in pot. The seed are treated with *Trichoderma* Species . The germination percentage of seed Panchganga is more than that of others. The seed health test is done by standard method (ISTA, 2001) . The seed borne fungal pathogen associated with seeds was observed by steribinocular microscope by the key of Mathur and Kongsdal (1994). BAU - Biofungicide (Trichoderma based preparation Hossain 2011) was collected from diseases resistance laboratory.

The germination percentage of hybrid varieties is more than that of wild variety by using the *Trichoderma spp* to control the pathogen of diseases. The height of stem, length of leaf treated plants is large than of control plants. Thus it is reported that least but similar prevalence of the fungi was recorded in the varieties tested .

RESULT AND DISCUSSION:

The plant length improved with the increased in the dose of fungus bio control agents such as *Trichoderma. viride and Trichoderma harzianum* The plant height was observed in pot N0 1 with 2 gm inoculums of bio control agents *Trichoderma. viride and Trichoderma harzianum* It was followed by plants treated with 2.0 gm 1.5gm and 1.0 gm of inoclum as compared to untreated which shows lowest plant growth. The decrease in infection may also be due to release of toxic compounds and substances from the fungal agents which are inhibit to pathogenic fungi . Bhat, etal (2003), reported that bio control agent *Trichoderma. viride and Trichoderma harzianum* to stimulate of brinjal plant as compound to the un control plants.

Thus as a result the treatment of plants with different dose of VAM fungi , *Glomus mosseae and G. fasciculatum* there was observed a reduction in the pathogen effect by *Fusarium oxysporum* and improvement in plant growth of brinjal plants. The highest increase in the plant length is observed in plants grown in Pot No. 1 with 10gm of soil root of inoculum *Glomus mosseae and G. fasciculatum* The improvement in plant growth and chlorophyll content might be due to structural physiological and biological changes in the environment (Dehine, 1982) , VAM fungi have been found to increase mineral uptake especially P, K and Zn that improve the plant growth and caused plant to escape from root disease (Khaliq etal ; 2001). Effect of the fungi on germination of Brinjal seed of three hybrid verities presented in the table . Significantly the highest germination and growth rate was recorded more in Pot No. 1 as compared to other . This is due to the Bio control of *Trichoderma. viride and Trichoderma harzianum* .

Effect of Trichoderma viride on Fusarium oxysporum and plant growth of Brinjal:

Variety	Treatment	Germination % after	
		10 days	20 days
Ankur	*T. viride*	80.7%	90%
Panchganga	*T. viride*	70.9 %	82%
Arnav	*T. viride*	70 %	70.7%
Wild	*T. viride*	40 %	42%
Wild (control)	-	40%	42%

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